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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,958	02/11/2002	MacGregor Belniak	005378.P001	6988

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EXAMINER
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HIRL, JOSEPH P

ART UNIT	PAPER NUMBER
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2129

DATE MAILED: 04/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/074,958	<b>Applicant(s)</b> BELNIAK ET AL.	
	<b>Examiner</b> Joseph P. Hirl	<b>Art Unit</b> 2129	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This Office Action is in response to an AMENDMENT entered February 17, 2006 for the patent application 10/074,958 filed on February 11, 2002.
2. All prior office action are incorporated by reference.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 11-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Heckerman (Microsoft Research Technical Report, MSR-TR-95-06, referred to as **Heckerman**).

#### **Claim 11**

Heckerman anticipates dynamically processing a database to eliminate missing values in records, each record to contain a plurality of values (**Heckerman**, abstract; p19-23, Section 6; Examiner's Note (EN): ¶ 11. applies; processing of data is dynamic); preparing a statistical summary of processed data in the database (**Heckerman**, abstract; EN: ¶ 11. applies; probabilistic semantics is synonymous with statistical summary); constructing a database structure to hold the statistical summary (**Heckerman**; p 35-37, Section 12; EN: Table 1 is a database); searching through

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possible relationship models to find a high-scoring network (**Heckerman**; p 35-37, Section 12); and using the high-scoring network to compute a decision for a new case (**Heckerman**; p 35-37, Section 12; EN: such would be the next case).

**Claim 12**

Heckerman anticipates discretizing continuous variables in the database before preparing the plurality of statistical summaries (**Heckerman**; p 9:11).

**Claim 13**

Heckerman anticipates modifying a relationship of the high-scoring network (**Heckerman**; p 35-37, Section 12).

**Claim 14**

Heckerman anticipates the new case consists of values of a subset of fields of a record (**Heckerman**; p 12:16-23).

**Claim 15**

Heckerman anticipates records in the database represent bank customer transaction records, and the decision is to identify an at-risk customer of the bank (**Heckerman**; p 12:8-15).

**Claim 16**

Heckerman anticipates the statistical summary is a Bayesian model of correlations between data in records (**Heckerman**, abstract).

**Claim 17**

Heckerman anticipates the decision is one of a detection of an illegal financial transaction, a network fault diagnosis, or a prediction of a result-of a pharmaceutical compound in an organism (**Heckerman**, p 12:8-15).

**Claim 18**

Heckerman anticipates aggregating similar database records together; and computing a frequency of occurrence (**Heckerman**, p 5:8-21).

**Claim 19**

Heckerman anticipates preparing a plurality of hashes to cluster the database records (**Heckerman**, p 5:33; p 6:1; EN: the value of hashes are  $\theta$ ).

**Claim 20**

Heckerman anticipates the database structure is an alternating decision tree ("ADTree") (**Heckerman**, p 18:1-3; EN: an ADTree is a binary tree and Heckerman's binary variables achieve the same result).

**Claim 21**

Heckerman anticipates correlation statistics between nodes (**Heckerman**, Fig. 4).

**Claim 22**

Heckerman anticipates inferring a value of a non-observed variable based on a previous observation and the high-scoring network (**Heckerman**, p 35-37, Section 12).

**Claim 23**

Heckerman anticipates storing the high-scoring network in an eXtensible Markup Language ("XML") format (**Heckerman**, p 46:11; EN: BUGS is available in hypertext

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markup language which for the purpose intended is not functionally distinct from extensible markup language).

### ***Response to Arguments***

5. The objection to the Oath/Declaration is withdrawn.
6. The rejection of claim 6 under 35 USC 112, first paragraph, concerning new matter is withdrawn.
7. The remarks made in reference to the prior art of Underwood are acknowledged but such arguments are moot in the face of the prior art of Heckerman. Applicant is reminded that merely overcoming the current prior art cited by the Examiner in the instant office action without overcoming the full spectrum of applicable prior art is an exercise of limited value.

### ***Examination Considerations***

8. The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The

Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

9. Examiner's Notes are provided with the cited references to prior art to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and spirit of compact prosecution. However, and unless otherwise stated, the Examiner's Notes are not prior art but a link to prior art that one of ordinary skill in the art would find inherently appropriate.

10. Unless otherwise annotated, Examiner's statements are to be interpreted in reference to that of one of ordinary skill in the art. Statements made in reference to the condition of the disclosure constitute, on the face of it, the basis and such would be obvious to one of ordinary skill in the art, establishing thereby an inherent prima facie statement.

11. Examiner's Opinion: ¶¶ 8-11 apply. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

### ***Conclusion***

12. Claims 11-23 are rejected.

***Correspondence Information***

13. Any inquiry concerning this information or related to the subject disclosure should be directed to the Primary Examiner, Joseph P. Hirl, whose telephone number is (571) 272-3685. The Examiner can be reached on Monday – Thursday from 6:00 a.m. to 4:30 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, David R. Vincent can be reached at (571) 272-3080.

Any response to this office action should be mailed to:

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Hand delivered to:

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401 Dulany Street,  
Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:

(571) 273-8300 (for formal communications intended for entry.

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Business Center (EBC) at 866-217-9197 (toll free).



Joseph P. Hirl  
Primary Examiner  
April 24, 2006